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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/031,686 | 01/22/2002 | Norbert Ehmer | AP9671 | 6213 |
| 44200 | 7590 | 06/20/2005 | EXAMINER | |
| HONIGMAN MILLER SCHWARTZ AND COHN LLP 32270 TELEGRAPH RD SUITE 225 BINGHAM FARMS, MI 48025-2457 | | | NGUYEN, THU V | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3661 | |

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/031,686 | Applicant(s) EHMER ET AL. | |
| | Examiner Thu Nguyen | Art Unit 3661 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-23 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-23 and 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

[Handwritten mark]

DETAILED ACTION

The amendment filed on September 8, 2004 has been entered. By this amendment, claims 1-15, and 24 has been canceled, and claims 16-23, 25-30 are now pending in the application.

Claim Rejections - 35 USC 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 16-21, 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janssen et al (DE 197 05 948) in view of Inoue et al (US 5,541,859) and further in view of Monzaki (US 5,570,935).

As per claim 16, Janssen teaches a method for controlling a vehicle including the steps of: detecting and evaluating the vibration behavior of individual wheels (page 3, lines 12-19); detecting and evaluating vehicle acceleration (page 3, lines 28-30); activating a control function when the vibration and the wheel acceleration both exceed an associated threshold value (page 3, lines 12-36; page 4, lines 1-8). Jansen does not explicitly teach detecting and evaluating the vibration behavior of at least two driven wheels to determine gravel road condition, and Janssen does not teach detecting and evaluating the wheel acceleration. However, Jansen teaches a known prior art GB 2 289 097 A that teaches detecting and evaluating vibration directed solely on the driven wheels (page 2, second paragraph), and Inoue teaches the obviousness of

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evaluating vibrations of at least two non-driven wheels in determining gravel road condition (col.23, lines 4-10, lines 53-61). Moreover, Janssen teaches determining the vehicle acceleration (page 3, lines 28-30), it would have been known that the vehicle acceleration is determined from the wheel acceleration, and Monzaki teaches detecting the wheel acceleration (col.17, lines 25-31). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include a method for detecting and evaluating vibration directed solely on the driven wheel as taught by prior arts (GB 2 289 097 A), and to include determining vibrations of at least two non-driven wheel taught by Inoue, and to include the wheel acceleration to the system of Janssen in order to use the data from the data measured directly from the driven wheel sensors in determining gravel condition of the road and to activate appropriate control based on the condition of the road and the behavior of the wheels.

As per claim 17, Monzaki teaches activating a control function when the period of a vibration of the driven wheels is within a specified range (page 3, lines 13-17).

As per claim 18-19, determining a specific limit range as a result of a general known measurement in experimentation on the threshold of acceleration or period range on which slipping occurs requires only routine skill in the art.

As per claim 20-21, exerting a control function when the driven wheel exhibit a specific traction slip would have been well known. Further, determining a specific limit range as a result

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of a general known measurement in experimentation on the threshold of the traction slip requires only routine skill in the art.

As per claim 25, activating a control when a gravel road is identified in one driven axle vehicle would have been well known.

As per claim 26, Monzaki teaches an anti-lock system (col.1, lines 5-9; col.3, lines 9-27).

As per claim 27, and setting brake control threshold in the range of 0-10km.h (col.7, lines 63-67; col.8, lines 1-2)

As per claim 28, refer to claims 16 and 27 above.

3. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janssen et al (DE 197 05 948) in view of Inoue et al (US 5,541,859) and further in view of Monzaki (US 5,570,935) and Saeki et al (US 5,748,503).

As per claim 22-23, Saeki teaches activating a control function in respond to the vehicle reference value (col.33, lines 65-67; col.34, lines 1-7, lines 56-61), further, comparing the reference vehicle speed with a predetermined threshold to determine if traction control, or antilocking brake should be activated would have been well known. Moreover, determining a specific limit range as a result of a general known measurement in experimentation on the threshold of the traction slip requires only routine skill in the art.

4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (JP 10-29519) in view of Janssen et al (DE 197 05 948) and further in view of Inoue et al (US 5,541,859).

As per claim 29, Matsuda teaches a circuit arrangement for controlling a vehicle using anti-lock system. The circuit comprises: an identification circuit (para 0009); a detection circuit for detecting the vibration behavior of a wheel, the output of the detection circuit is integrated and the road condition is detected (abstract; para 0013-0014). Matsuda does not explicitly teach detecting the vibration behavior of individual wheels of at least two non-driven wheels, and integrating a quantity over a period of time. However, Matsuda teaches detecting the vibration of a wheel (abstract), further Janssen teaches a known prior art GB 2 289 097 A which teaches an identification circuit for directing detecting and evaluating the vibration behavior solely to driven wheels (page 2, second paragraph) and Inoue teaches the obviousness of detecting vibration of at least two non-driven wheels (col.23, lines 4-10, lines 53-60), moreover, integrating a signal over a predetermined period of time would have been well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include detecting the vibration of the two non driven wheel to the circuit of Matsuda, and to select a predetermined period of time to integrate the vibration values taught by Matsuda in order to prevent vibration using driven wheel sensors data and to facilitate determining rough road caused by split road or gravel road.

5. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda (JP 10-29519) in view of Janssen et al (DE 197 05 948) and further in view of Inoue et al (US 5,541,859), Saeki et al (US 5,748,503) and Monzaki (US 5,570,935).

As per claim 30, refer to claim 16 and 22 above. Further, comparing the traction slip of the wheels with a limit value to determine activation of traction control would have been well known.

Response to Arguments

6. Applicant's arguments filed March 30, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument on page 6, it is admitted that GB 2 289 097 (GB '097 hereinafter) does not explicitly disclose detecting vibration of two driven wheels, however, GB '097 at least suggests using the speed of the two driven wheels to determine the differential speed, the differential speed is used to determine vibrations, therefore, the at least GB '097 teaches the connection between vibrations and the data obtained from the two driven wheels. Moreover, Inoue teaches the obviousness of evaluating vibrations of the two non-driven wheels in determining road condition (Inoue in col.23, lines 4-10, lines 53-61). Applicant fails to address the teachings of Inoue et al (US 5,541,859) and Monzaki (US 5,570,935) in combination with the teaching of Janssen.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Nguyen whose telephone number is (571) 272-6967. The examiner can normally be reached on T-F (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 9, 2005


THU V. NGUYEN
PRIMARY EXAMINER